PHILOSOPHICAL TRANSACTIONS.

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An Account of Virginia, *its Scituation, Temperature, Productions, Inhabitants, and their manner of planting and ordering Tobacco, &c. Communicated by Mr.* Thomas Glover, *an ingenious Chirurgion that hath lived ſome years in that Country.*

Virginia being a part of the Continent of *America*, is diſtant from the Lizard or Lands-end of *England* a thouſand Leagues, and is bounded on the Eaſt with the main Ocean, on the Weſt with the *Appal-lean* Mountains, on the North with *De la wares*-bay and River, and on the South with the River of *Roanock* ; the Country lieth within a Bay called the Bay of *Chiſepeek* ; the mouth or entrance whereinto is due weſt, being about ſix leagues in breadth, and runneth up into the Country North and by Eaſt about one hundred Leagues, continuing the forementioned bredth a great part of the way, but narroweth by degrees towards the upper end about one half: The water in the Channel is for the moſt part nine fathom, but in ſome places not above ſeven: The Southernmoſt Cape of this Bay lieth in 37 degrees and odd minutes North-latitude, and within

the ſame are divers little Iſlands, upon ſome of which there are Plantations.

Into this Bay do iſſue ſo many large, pleaſant and commodious Rivers, as I verily believe no ſpace of ground of equal dimenſions in the whole world can boaſt of the like: The moſt eminent of theſe are, *James* River, *York*, *Rapa han-nock*, *Poto-mack*, *Potuxen*, and *Choptanck*; the four laſt retain their *Indian* names. At the head of the Bay do enter three large Rivers, one whereof is called *Suſ-ca-hannah*, from a Nation of *Indians* ſo called, bordering on the ſame; the names of the other two I do not well remember. Beſides theſe, there are twice as many as navigable as theſe, but by reaſon they run not above thirty or forty miles, I ſhall forbear inſerting any of their names. *Potomack*, the largeſt of all the reſt, is at the mouth ten miles broad, and continueth that bredth for twenty miles up; from which place it is ſix miles broad, and continueth that bredth for thirty miles higher, and is in length about two hundred miles. This River lieth about the middle of the Bay, and divideth the Government between my Lord of *Baltamore* and Sr. *Will. Bartlet*; the other Rivers, whoſe names are here inſerted, are moſt of them two Leagues broad at the mouth, and ſome of them a hundred and fifty, others a hundred and twenty miles in length.

The *Tides* are ſcarce diſcernible, when the winds hold at North-weſt; but at other times they flow as they do in *England*, only they appear not ſo large; the reaſon whereof may be, becauſe the Tide diffuſeth it ſelf into ſo many ſpacious Rivers; neither is it needful, in regard the Bay and Rivers are deep enough without the help of the Tide to receive the biggeſt Ship in the world; only it is helpful to bring in veſſels when the winds are ſmall or oppoſite.

In the Rivers are great plenty and variety of delicate Fiſh; one kind whereof is by the Engliſh called a *Sheepſhead*, from the reſemblance the eye of it bears with the eye of a Sheep: This fiſh is generally about fifteen or ſixteen inches long, and about half a foot broad; it is a wholeſom and pleaſant fiſh, and of eaſie digeſtion. A Planter does oftentimes take a dozen or fourteen in an hours time, with hook and line.

There is another ſort which the Engliſh call a *Drum*; many of which are two foot and a half or three foot long. This is likewiſe a very good fiſh, and there is great plenty of them. In the head of this fiſh there is a jelly, which being taken out and dried in the Sun, then beaten to powder and given in broth, procureth ſpeedy delivery to women in labour.

At the heads of the Rivers there are *Sturgeon*, and in the Creeks are great ſtore of ſmall fiſh, as *Perches*, *Crokers*, *Taylors*, *Eels*, and divers others whoſe names I know not. Here are ſuch plenty of *Oyſters* as they may load ſhips with them. At the mouth of *Elizabeth* River, when it is a low water, they appear in rocks a foot above water. There are alſo in ſome places great ſtore of *Muſcles* and *Cockles*; there is alſo a fiſh called a *Sting-ray*, which much reſembleth a *Skate*, only on one ſide of his tayl grows out a ſharp bone like a bodkin about four or five inches long, with which he ſtrikes and wounds other fiſh, and then preys upon them.

And now it comes into my mind, I ſhall here inſert an account of a very ſtrange Fiſh or rather a Monſter, which I happened to ſee in *Rapa-han-nock* River about a year before I came out of the Country; the manner of it was thus:

As I was coming down the forementioned River in a Sloop bound for the Bay, it happened to prove calm; at which time we were three leagues ſhort of the rivers mouth; the tide of ebb being then done, the ſloop-man dropped his grap-line, and he and his boy took a little boat belonging to the ſloop, in which they went aſhoar for water, leaving me aboard alone, in which time I took a ſmall book out of my pocket and ſate down at the ſtern of the veſſel to read; but I had not read long before I heard a great ruſhing and flaſhing of the water, which cauſed me ſuddenly to look up, and about half a ſtones caſt from me appeared a moſt prodigious Creature, much reſembling a man, only ſomewhat larger, ſtanding right up in the water with his head, neck, ſhoulders, breaſt, and waſte, to the cubits of his arms, above water; his skin was tawny, much like that of an *Indian*; the figure of his head was pyramidal, and ſlick, without hair; his eyes large and black, and ſo were his eye-brows; his mouth very wide, with a broad, black ſtreak on the upper lip, which turned upwards at each end like muſtachoes; his countenance was grim and terrible; his neck, ſhoulders, arms, breaſt and waſt, were like unto the neck, arms, ſhoulders, breaſt and waſt of a man; his hands, if he had any, were under water; he ſeemed to ſtand with his eyes fixed on me for ſome time, and afterward dived down, and a little after riſeth at ſomewhat a farther diſtance, and turned his head towards me again, and then immediately falleth a little under water, and ſwimmeth away ſo near the top of the water, that I could diſcern him throw out his arms, and gather them in as a man doth when he ſwimmeth. At laſt he ſhoots with his head downwards, by which means he caſt his tayl above the water, which exactly reſem-

bled the tayl of a fiſh with a broad fane at the end of it.

On the Bay and Rivers feed ſo many wild fowl, as in winter time they do in ſome places cover the water for two miles; the chief of which are wild *Swans* and *Geeſe*, *Cormorants*, *Brants*, *Shield-fowl*, *Duck* and *Mallard*, *Teal*, *Wigeons*, with many others.

There likewiſe keep in the Rivers *Bevers* and *Otters*; the Bevers have their teeth ſo ſtrong and ſharp, that they gnaw down trees, wherewith they make damms croſs the waters, under which they keep, which are uſually called *Bever-damms*, and in ſome places ſerve in the room of foot-Bridges.

The original ſprings, that make all theſe Rivers, ariſe at the foot of the *Appa-lean* Mountains; but the Cataracts or falls of the Rivers are ſixty or ſeventy miles diſtant from the Mountains.

Theſe Mountains have their beginning Northward at the Lake of *Canada*, and run along the back of the Country to the South-weſt as far as the lake *Uſſherre*, which is ſome hundreds of Leagues.

There was one Colonel *Catlet*, that was a good Mathematician, who with ſome other Gentlemen took a Journey to make ſome further diſcoveries of the Country to the Weſtward, and arriving at the foot of the Mountains early in the morning, they left their horſes, and endeavoured to gain the tops of the Mountains, which they accompliſhed about four of the clock in the afternoon, and then looking further forward they diſcovered other Mountains, whereof they took the altitude and judged them inacceſſible; which diſcouraged them from any further attempts, their deſign being chiefly to diſcover whether there were any Rivers that ran into the South-ocean.

Above five years ſince there was a German Chirurgeon, who obtained a Commiſſion from Sr. *Will. Bartlet* to travel to the South-weſt of *Virginia*, and to make diſcovery of thoſe parts: He went along the foot of the Mountains as far as the Lake of *Uſſherre*, and diſcovered them to be paſſable in two places, and he gives a relation, that, while he was in an Indian town adjacent to the Mountains, there came four Indians on an Embaſſie to the King of that town, from a King that lived on the other ſide of the Mountains, who by the commandment of the King on this ſide were all ſtrangled, with which barbarous uſage he was much abaſhed, fearing the like cruelty; but they proved more civil to him, permitting him to depart in ſafety.

At his return he brought an *Emerauld*, and ſome *Spaniſh* mony, which he ſaid he had of the Indians bordering on the Lake of *Uſſherre*,

Uſherre, which cauſed ſome to think that ſome *Spaniards* are ſeated near upon the back of the Mountains.

Having hitherto diſcourſed of the Bay, Rivers, and Mountains, I ſhall now make ſome entrance into the Land; and firſt of the ſhores, which all along the Bay and Rivers are for the moſt part ſandy, but only in ſome points there is ſome ſhingle caſt up: but the Earth affordeth very few Stones, and thoſe that are there, are almoſt all of them hard & tranſparent. I have taken up ſeveral ſtones, that would cut glaſs as well as any Diamond. Sr. *Henry Chichely* had a ſtone, that was taken up by the Rivers ſide, which he put into a Ring, for which Ring he hath been profer'd fifteen pounds; and I do verily think, that there are ſome ſtones gathered there that do abate the price of Diamonds; for I have ſeen ſeveral Rings of *Virginia* ſtones, which in my judgment have equalled Diamonds in luſtre.

The Chiefs of all the Rivers are full of great veins of *Iron-mine* and in ſome places of the Countrey I have ſeen Rocks of the ſame to lye a foot above the Earth; and generally all the high Lands under the mould are a meer Rock of Iron; the conſideration whereof together with the infinite plenty of wood did cauſe me with admiration to enquire, why they did not endeavour the improvement of that advantage which God and Nature had put into their hands, by running of this Mineral; but I was anſwer'd, That an Iron-work would coſt three thouſand pounds, and the Countrey being generally poor, were diſcouraged from the attempt by reaſon of the charge. I believe the true reaſon is, their being ſo intent on their *Tobacco-Plantations* that they neglect all other more Noble and advantageous improvements, whereof the Countrey is capable, which without doubt are many. For in their planting Tobacco they find greateſt encouragement from *England*, by reaſon of the vaſt revenue it brings into the *Exchequer*.

They diſtinguiſh their ſoil into three ſorts, *viz.* High, low and marſhy Land; all which have ſome ſand mix'd in them, that makes their Land warmer than ours is in *England*. Their high Lands are moſt ſandy, but do notwithſtanding bear very good Crops of Tobacco; only it does not hold its ſtrength ſo long as the low ground, which is very rich, being a blackiſh mould about a foot deep, or ſomewhat more, and will hold its ſtrength for ſeven or eight Crops ſucceſſively without manuring. Their Marſhlands bear ſedges and ruſhes after the manner of ours; and of theſe they have not endeavoured any improvement as yet. Their Land in general is as good and fertile as the Land of *England*; when the ſtrength of their ground

ground is worn out they never manure it to bring it in heart, but let it lie for paſture for all Mens Cattel to graſe upon, and clear more ground out of the Woods to plant in.

As to the *Timber* of this Countrey, there are divers kinds; four ſeveral ſorts of *Oak*, very tall and ſmooth. There is alſo another ſort of Timber called *Hickery*, that is harder than any Oak. There are alſo very large and tall *Poplars*; and in ſome parts of the Countrey great ſtore of *Pines*, fit for Maſts of Ships: There is likewiſe black *Walnut*, *Cipreſs*, *Cedar*, *Dogwood*, *Aſh*, *Elm*, *Gum-tree*, *Locuſt*, *Cheſnut*, *Haſel*, *Saſſafras*, *Holly*, *Elder*, with ſeveral others.

As to the *Fruit-Trees* of the Countrey, it affords great plenty: For there are few Planters but that have fair and large Orchards, ſome whereof have twelve hundred Trees and upward, bearing all ſorts of *Engliſh* Apples, as *Pear-mains*, *Pippins*, *Ruſſetens*, *Coſtards*, *Marigolds*, *Kings-apples*, *Magitens*, *Batchelours*, and many others, of which they make great ſtore of Cider.

Here are likewiſe great *Peach-Orchards*, which bear ſuch an infinite quantity of Peaches, that at ſome Plantations they beat down to the Hoggs fourty buſhels in a year.

Here are alſo great ſtore of *Quinces*, which are larger and fairer than thoſe of *England*, and not ſo harſh in taſte; of the juice of theſe they alſo make Quince-drink.

Here are likewiſe *Apricocks*, and ſome ſorts of *Engliſh Plums*, but theſe do not ripen ſo kindly as they do in *England*.

There are ſome ſorts of *Pears*, but at very few Plantations; I have ſeen the *Bergamy*, *Warden*, and two or three other ſorts, and theſe are as fair, large and pleaſant as they are in *England*.

Here grow as good *Figgs*, as there do in *Spain*, but there are few planted as yet.

Thoſe that take the pains to plant *Gooſe-berries*, have them; but I never ſaw any of our *Engliſh Currants*, (Riberries) there, and it is obſerv'd, that *Oranges* and *Limons* will not grow there, though they do in more Northern Countries.

I had almoſt forgot to mention their *Mulberry-Trees*, whereof they have good ſtore about their Houſes; theſe were planted at firſt to feed Silk-worms, but that deſign failing, they are now of little uſe amongſt them.

The meaneſt Planter hath ſtore of *Cherries*, and they are all over *Virginia* as plentiful as they are in *Kent*. The Cherry-Trees grow more large generally than they do in *England*, and bear more plentifully without any pains-taking of digging about them, or pruning them.

There

There groweth wild in ſome places of the Woods a Plum ſomewhat like our *Wheat-Plum*, but it doth exceed it, being much more ſucculent.

In the Woods there are abundance of *Vines*, which twine about the Oaks and Poplars, and run up to the top of them; theſe bear a kind of *Claret-grapes*, * of which ſome few of the Planters do make Wine, whereof I have taſted; it is ſomewhat ſmaller than *French* Claret; but I ſuppoſe, if ſome of theſe Wines were planted in convenient vine-yards, where the Sun might have a more kindly influence on them, and kept with diligence and ſeaſonable pruning, they might afford as good grapes as the Claret-Grapes of France are.

* *Theſe Vines have very large Bodies.*

There is alſo in the Woods a little Shrub which beareth a Berry like our *Elder-berry*, and is a very pleaſant Berry to eat.

I lately made mention of the *Cheſnut*, *Walnut* and *Haſel*-Tree, which all of them bear their ſeveral Nuts; and beſide theſe, here is another called a *Chincopine*, which is like a Cheſnut, with a Burry husk, but leſſe by far.

Their Gardens have all ſorts of *Engliſh* Pot-herbs, and ſallets; they have *Cabbages*, *Colworts*, *Colly flowers*, *Parſnips*, *Turnips*, *Carrets*, *Potatoes*, and *Yams*; and ſuch Herbs as grow wild in *England*, and do not grow there, they plant, as *Wormwood*, *Fetherfew*, *Houſeleek*, *Cardum Benedictus*, *Rue*, *Coriander*, *Enula*, and the like.

They have likewiſe in their Gardens *Roſes*, *Clove-Gilliflowers*, and variety of other ſorts of Flowers.

There grow wild in the Woods, *Plantane* of all ſorts, *Yellow-Dock*, *Bur-Dock*, *Solomons-ſeal*, *Egrimony*, *Centory*, *Scabious*, *Groundſel*, *Dwarf-Elder*, *Yarrow*, *Purſlan*, and white *Maiden-hair* the beſt that ever I ſaw. Upon the ſides of the Hills, *Aſarum*; and on the Bay-ſide, *Soldanella* or *Sea-Scurvygraſs* in great plenty.

Here groweth the *Radix Serpentaria Nigra*, which was ſo much uſed in the laſt great peſtilence, that the price of it advanced from ten Shillings to three pounds *ſterling* a pound: Here is alſo an herb which ſome call *Dittany*, others *Pepper-wort*; it is not *Dittany of Candia*, nor *Engliſh Dittander*; it groweth a foot or a foot and half high, the leaves are about the bredth of a groat, and figur'd like a heart, and ſhort out of the ſtalk and branches one of a ſide directly oppoſite to each other; it ſmelleth hot like Pepper, and biteth upon the Tongue. The water of this herb diſtill'd out of a Limbeck, is one of the beſt things I know to drive worms out of the Body; and an ounce of this water taken, provoketh ſweat plentifully.

Here

Here grow two Roots, which ſome Phyſicians judg, the one to be *Turbith*, the other *Mechoacan*; but whether they be the right or no, I could not well judg. Both theſe Roots are purging, and in their operations much like thoſe we have at the Apothecaries, only ſomewhat more forcible; the reaſon may be, becauſe there we have them more new and ſucculent.

Here groweth a Plant about a foot and half or two foot in height, the leaves are rugg'd like to a Borage leaf, but they are longer, and not above two fingers broad; about the ſtalk, where the leaves grow out, there hang Berries, which being ripe are yellow: The *Engliſh* call it the *Fever* and *Ague-root* This Root being newly taken out of the ground, and a dram and half of it infuſed in beer or water the ſpace of twelve hours, purgeth downward with ſome violence, but I have given a dram of the Root in powder, and then it only moveth ſweat, and that but moderatly. It is a little bitter in taſte, and therefore ſomewhat hot.

There are great numbers of Herbs, whoſe names, nature, virtues and operations are altogether unknown to us in *Europe*; neither have there been any *Phyſicians* in thoſe parts that have made it their buſineſs to underſtand much of them; but if the uſe of them were well known, it might prove a great and beneficial addition to the *Materia Medica*.

Now I have done with the Plants, I will render ſome account of their ſtocks of *Cattel*, which are greater than ours, conſidering the quantity of People, and might be much larger than they are, were the Inhabitants as careful in looking after them and providing fodder for them as they in *England* are. All that they give their Cattel in winter is only the husks of their *Indian* Corn, unleſs it be ſome of them that have a little wheat-ſtraw; neither do they give them any more of theſe than will ſerve to keep them alive, by reaſon whereof they venture into the Marſhy grounds and ſwamps for food, where very many are loſt.

They have as great plenty of Horſes, and as good as we have in *England*.

As to their *Sheep*, they keep but few, being diſcouraged by the Wolves, which are all over the Countrey, and do much miſchief amongſt their Flocks.

In the Woods are great ſtore of *Deer*, and ſome *Rabbets*, which are generally miſtaken for Hares.

There are alſo ſeveral ſorts of ravenous Beaſts, as *Wolves*, *Racoons*, *Wild cats*, *Poſſums*, *Monacks*, *Flying Squirrels*, with two other ſorts;

ſorts; and in the Northern moſt parts of the Countrey ſome *Bears*.

The Fowls that keep the Woods are, wild *Turkies*, *Turkie Buzzards*, *Turtle-Doves*, *Partridges*, *Hawks* of ſeveral ſorts, which many others of leſs note.

There are alſo divers kinds of ſmall Birds, whereof the *Mocking-bird*, the *Red-bird*, and *Humming-bird*, are the moſt remarkable; the firſt, for variety and ſweetneſs of notes, the ſecond for his colour, and the laſt for the ſmalneſs of his body. As to the *Mocking-bird*, beſides his own natural notes, which are many and pleaſant, he imitateth all the birds in the woods, from whence he taketh his name; he ſingeth not only in the day, but alſo at all hours in the night, on the tops of the Chimneys; he is ſtrangely antick in his flying, ſometimes fluttering in the air with his head right down and tail up, other times with his tail down and head up; being kept tame, he is very docible. The *Red bird*, as I hinted before, taketh his name from his colour, being all over of a pure blood-red. The *Humming-bird* taketh his name from the noiſe he makes in flying: This is of divers colours, and not much bigger than a *Hornet*, and yet hath all the parts of a bird entire.

There are five or ſix ſorts of *Snakes*, amongſt which the *Rattle-Snake* is moſt remarkable, being about the bigneſs of a mans legg, and for the moſt part a yard and a half long; he hath a Rattle at the end of his Tail, wherewith he maketh a noiſe when any one approacheth nigh him, which ſeemeth to be a peculiar providence of God to warn people to avoid the danger; for this Creature is ſo venemous, that the bite of it is of moſt dangerous conſequence, unleſs they ſpeedily make uſe of the proper antidote; of which I ſhall take occaſion to ſpeak ſomewhat hereafter. There are alſo long *black Snakes*, ſhort and thick *black Snakes*; this latter ſort often times ſucks the Cows, and cauſes them to give bloody milk. There is another ſort called the *Corn-Snake*, becauſe he is uſually found in Corn-fields; this is near as big as the *Rattle-Snake*. There are alſo ſome other ſorts of *Land-Snakes*, all of which are more or leſs venemous; beſides there are very many *Water-Snakes*, that keep the Springs and Rivers.

Of the Indians *themſelves.*

The *Indians* are generally well proportioned as to their ſtature, being ſomewhat tall, but no waies corpulent; their hair black, uſually hanging right down; their eyes alſo black, their skin tawny, inclining to blackiſhneſs; they live together in Towns, and every town is under a ſeveral King: At the firſt coming of the

Engliſh divers Towns had two or three thouſand Bow-men in them; but now, in the Southern parts of *Virginia*, the biggeſt Indian Town hath not above five hundred Inhabitants; many Towns have ſcarce ſixty Bow-men in them, and in one Town there are not above twenty, and they are ſo univerſally thinned in the forementioned Southern part, that I verily believe there are not above three thouſand left under the whole government of Sir *Will. Bartlet*; but in my Lord of *Baltimores* territories at the head of the Bay, where the *Engliſh* were later ſeated, they are more numerous, there being ſtill in ſome Towns about three thouſand *Indians*. But theſe being in continual wars with each other, are like ſhortly to be reduced to as ſmall numbers as the former.

Inſtead of Cloaths they wear a *Deer*-skin tacked about their middle, and another about their ſhoulders, and for Shoes they have pieces of *Deer*-skin tied about their feet.

Their habitations are Cabins, about nine or ten foot high, which are made after this manner: They fix Poles into the ground, and bring the tops of them one within another, and ſo tie them together: the outſide of theſe poles they line with bark to defend them from the Injuries of the weather, but they leave a hole on the top, right in the middle of the Cabin for the ſmoak to go out; round the inſide of their Cabins they have banks of Earth caſt up, which ſerve inſtead of ſtools and beds; they have no kind of houſhold-ſtuff but Earthen-pots, Wooden bowls, and thin Mats to lie on; all which they make themſelves.

Their diet is *Indian* Corn, Veniſon, wild Turkies, Oyſters, and all kind of Fiſh the Rivers afford; and all kind of wild Beaſts of the Woods.

They are prohibited the keeping either Cows, Sheep or Hoggs, by the *Engliſh*, leſt they ſhould make bold with more than their own.

They did formerly catch their fiſh after an odd manner before the *Engliſh* came amongſt them, which was thus: At the head of their *Canoes* they fixed a Hearth, on which in a dark night they would make a blaze with fire put to the ſhivers of *Pine tree*; then they would paddle their *Canoes* along the ſhoar in ſhoal-water; the fiſh ſeeing the light would come as thick as they could ſwim by each other about the head of the *Canoes*; then with ſticks that were pointed very ſharp at the ends, they would ſtrike through them and lift them up into the *Canoe*: But now they have learned of the *Engliſh* to catch fiſh with hook and line, and ſometimes

times the *Engliſh* do uſe their way in dark nights, only they ſtrike with an Inſtrument of Iron ſomewhat like Mole-tines.

As to their Worſhip, I know little of it; only they have Prieſts which are generally thought to be Conjurers; for, when they have great want of Rain, one of their Prieſts will go into a private Cabin, and by his Invocations will cauſe abundance to fall immediately, which they call making of Rain.

They offer the Firſt fruits of all things; the firſt *Deer* they kill after they are in ſeaſon, they lay privately on the head of a Tree near the place where they killed it, and they ſay, no good luck will befal them that year if they do not offer the firſt of every thing.

They burn the Bodies of the dead; and ſow up the aſhes in Matts, which they place near the Cabbins of their Relations.

Some of them ſay, that the God of the *Engliſh* is a good God, and gives them good things; but *their* God is an angry God, and oftentimes beats them.

Almoſt every Town differs in language, and yet not any of their languages copious; as may be ſeen by their frequent expreſſing their meaning to each other by ſigns.

Their mony is of two ſorts, one whereof is made of a white kind of ſhell, which being divided into ſmall parts, they put them on a ſtring after the manner of Beads; this they call *Peacke*: The other is of a blew ſhell ordered in the ſame manner, which they call *Rounda*; this laſt is the meaner ſort, about half a yard whereof is of equal value with our nine pence. The chief of the *Indians* do wear ſome of this on the *Deer*-skins about their bodies, laid on like lace.

They have nothing to trade with but *Deer* skins, and ſome *Bever*, which they exchange with the *Engliſh* for Guns, Gunpowder, Shot and Brandy; having nothing before but Bows and Arrows, wherewith they killed their *Deer* and other wild Beaſts.

They have no other account of Time but by the changes of the Moon.

Their Winter is uſually in *November*, *December* and *January*.

They are very revengful; for, if any one chance to be ſlain, ſome of the Relations of the ſlain perſon will kill the murtherer or ſome of his family, though it be two or three generations after, having no juſtice done amongſt them in this reſpect but what particular perſons do themſelves; if that may be termed juſtice.

The *Indians* being a rude ſort of people uſe no Curioſity in preparing their Phyſick; yet are they not ignorant of the nature and uſes of their plants, but they uſe no correctives to take away the flatuous, nauſeous, and other bad qualities of them. They either powder, juyce, infuſe or boyl them, till the decoction be very ſtrong.

Their uſual way of cure for moſt inward diſtempers is by decoction, which they make partly pectoral, partly ſudorifick; theſe they cauſe the ſick to drink, the quantity of half a pint at a time, two or three times a day; but they give nothing to procure vomiting in any diſtempers, as a bad omen that the diſeaſed will die; neither did I ever know them to uſe any waies of Blooding or Cupping.

If they have any Wounds, Ulcers or Fractures, they have the knowledge of curing them. I did once ſee an *Indian* whoſe arm had been broken, and viewing the place, I found the bones to be as ſmoothly conſolidated, and as well reduced, as any *Engliſh* Chirurgion could have done it.

All *Indians* carry a Powder about them to cure the bites of *Snakes*, and in almoſt every Town this powder hath a different compoſition, and every compoſition is certainly effectual to the correcting the malignity of the Venom. Neither was it ever known to us, that any *Indian* ſuffered much harm by theſe bites, but in a daies time he would be as well as if he had never been bitten: Whereas ſome of the *Engliſh* for want of a ſpeedy remedy have loſt their lives.

The *Indians* are frequently troubled with Violent Colicks, which oftentimes terminate in Palſies.

The manner of planting and ordering Tobacco.

In the Twelve-daies they begin to ſow their ſeed in beds of fine Mould, and when the Plants be grown to the bredth of a ſhilling, they are fit to replant into the Hills; for in their Plantations they make ſmall hills about four foot diſtant from each other, ſomewhat after the manner of our Hop-yards; Theſe hills being prepared againſt the plants be grown to the forementioned bigneſs (which is about the beginning of *May*,) they then in moiſt weather draw the plants out of their beds, and replant them in the hills, which afterwards they keep with diligent weedings. When the plant hath put out ſo many Leaves as the ground will nouriſh to a ſubſtance and largeneſs that will render them Merchantable, then they take off the top of the plant; if the ground be very rich, they let

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a plant put out a dozen or ſixteen leaves before they top it; if mean, then not above nine or ten, and ſo according to the ſtrength of their ſoyl, the top being taken if the plant grows no higher; but afterwards it will put out ſuckers between their leaves, which they pluck away once a week, till the plant comes to perfection, which it doth in *Auguſt*. Then in dry weather, when there is a little breez of wind, they cut down what is ripe, letting it lie about four hours on the ground, till ſuch time as the leaves, that ſtood ſtrutting out, fall down to the ſtalk, then they carry it on their ſhoulders into their Tobacco-houſes, where other Servants taking of it, drive into the ſtalk of each plant a peg, and as faſt as they are pegg'd, they hang them up by the pegs on Tobacco-ſticks, ſo nigh each other that they juſt touch, much after the manner they hang Herrings in *Yarmouth*; thus they let them hang five or ſix weeks, till ſuch time as the ſtem in the middle of the leaf will ſnap in the bending of it; then, when the Air hath ſo moiſtned the leaf as that it may be handled without breaking, they ſtrike it down, ſtrip it off the ſtalk, bind it up in bundles, and pack it into Hogſheads for uſe.

Sometimes they are forced to plant their hills twice or thrice over, by reaſon of an Earth-worm which eats the root, and when the plant is well grown they ſuffer damage by a Worm that devours the leaf, called a *Horn-worm* (an *Eruca* or Caterpillar) which is bred upon the leaf; if theſe worms be not carefully taken off, they will ſpoil the whole Crop.

In the Year. 1667 in *Auguſt* there happened all over *Virginia* a guſt or ſtorm of Wind and Rain, which continued for three daies with ſuch violence that the like was hardly ever heard of, it began and continued blowing at Eaſt with ſuch fierceneſs, that above one half of the crop of their Tobacco which was then ſtanding in their fields was blown away and torn apieces; the Trees in the Woods all over the Country were blown up by the roots in an innumerable quantity: The Waters in the Bay in ſome places were drove a great way into the Woods, and the greateſt part of thoſe that houſed Tobacco, had their Tobacco-houſes blown down and their Tobacco ſpoiled; ſo that there was not fully one part of three ſaved of what would have been made that year.

The Planters houſes are built all along the ſides of the Rivers for the conveniency of Shipping; they build after the *Engliſh* manner, whiting the inſide of their houſes with Mortar, made of burnt Oyſter-ſhells inſtead of lime. They have pure and wholeſom

water,

water, which they fetch wholly from Springs, whereof the Country is ſo full, that there is not a houſe but hath one nigh the door.

Advertiſement concerning the Quantity of a Degree *of a Great Circle, in* Engliſh *meaſures.*

SOme while ſince an account was given * concerning the *Quantity of a Degree of a great Circle*, according to the tenour of a printed *French* Diſcourſe, entituled *De la Meſure de la Terre.* The Publiſher not then knowing what had been done of that nature here in *England*, but having been ſince directed to the peruſal of a Book, compoſed and publiſhed by that known Mathematician *Richard Norwood* in the year 1636, entituled *The Seaman's Practice*, wherein, among other particulars, the compaſs of the *Terraqueous Globe*, and the *Quantity of a Degree* in *Engliſh* meaſures are deliver'd, approaching very near to that, which hath been lately obſerv'd in *France*; he thought, it would much conduce to mutual confirmation, in a ſummary Narrative to take publick notice here of the method uſed by the ſaid *Engliſh* Mathematician, and of the reſult of the ſame; which, in ſhort, is as follows:

* *See* N. 112, *and* N. 124 *of theſe Tranſ.*

A. 1635 the ſaid Mr. *Norwood*, Reader of the Mathematicks in *London*, obſerv'd, as exactly as he could, the Summer-Solſtitial Meridian Altitude of the Sun in the middle of the City of *York*, by an Arch of a Sextant of more than five foot *radius*, and found it to be 59 *deg.* 33'. And formerly (*vid. A.* 1633.) he had obſerv'd the like Altitude in the City of *London* near the *Tower* to be 62 *deg.* 1'. Whereupon he actually meaſured, for the moſt part, the way from *York* to *London* with Chains, and where he meaſur'd not, he paced it, (wherein, *he ſaith*, through cuſtom he uſually came very near the truth;) obſerving all the way he came, with a *Circumferentor*, all the principal Angles of poſition or windings of the way, with a competent allowance for other leſſer Windings, Aſcents and Deſcents; not laying theſe down by a *Protractor* after the uſual manner, but framing a *Table* much exacter and fitter for this purpoſe; as may be ſeen in the *Engliſh* book it ſelf. And by this Method and Meaſure he found the Parallel of *York* from that of *London* to be 9149 chains, every chain being ſix poles or ninety nine feet, 16½ *Engliſh* feet to a Pole. Now, theſe 9149 Chains being equal to 2 *deg.* 28'. (the aforeſaid Latitude between thoſe two Cities) a little calculation makes it appear, that *one Degree* of a Great Circle, meaſured on the Earth, is 367196 of our feet, *numero rotundo* 367200, or 22254 Poles; which make 556 Furlongs and 14 Poles,